

REMARKS

Favorable reconsideration of this application in view of the foregoing amendments and remarks to follow is respectfully requested.

In the outstanding Office Action, the Examiner objected to FIGS. 2, 3, 4a, 4b, 4c, 5a, and 5b of the instant application and required corrected drawing sheets in compliance with 37 C.F.R. § 1.121(d). In compliance with the Examiner's requirement, Applicants submit a set of replacement drawing sheets that replaces the original set of drawing sheets. Applicants submit that no new matter has been added and all features in the replacement drawings are supported by the original set of drawings sheets and/or by the figures in the provisional application No. 60/462,568, from which the instant application claims the benefit of priority. Applicants submit that the replacement drawing sheets obviate the outstanding objection to the drawings, and should suffice for purposes of examination.

At page 5 of the outstanding Office Action, the Examiner objected to the specification of the instant application for alleged informalities. In response, Applicants have amended the specification as suggested by the Examiner. Applicants submit that the outstanding objection to the specification has been obviated.

Further, at pages 5 – 6 of the instant application, the Examiner objected to an informality regarding cancelled Claim 6. In response, Applicants have corrected the format of cancelled Claim 6. Applicants submit that the correction to the format of cancelled Claim 6 obviates the outstanding objection regarding cancelled Claim 6.

Before addressing the specific grounds of rejection raised in the outstanding Office Action, Applicants have amended Claims 1, 2, 3, 7, 8, 10, 12, 13, and 14 in the manner indicated *supra*.

Specifically, Claim 1 has been amended to positively recite “a semiconductor material structure” instead of “an elongated semiconductor material.” Applicants submit that an elongated semiconductor material necessarily forms a semiconductor material structure.

Further, Claim 1 has been amended to positively recite “a first end portion, a second end portion, and a fuse link.” Support for this amendment is found, for example, at paragraphs 0006, 0020, 0038, and 0044, and FIGS. 1, 11b, and 15 of U.S. Patent Application Publication No. 2007/0242548 (“’548 Publication” hereafter), which is a publication of the instant application. Applicants further submit that a “first end (12a)” and a “second end (12b)” as referenced at paragraph 0020 of the ’548 Publication refers to a first end portion and a second end portion, as evidenced in FIG. 11b of the ’548 Publication. Applicants note that it is an established principle that the entire disclosure, including the specification, drawings, and claims, must be considered in determining whether a claim contains new matter. In re Gardner, 480 F.2d 879, 880, 178 U.S.P.Q. 149 (C.C.P.A. 1973).

Yet further, Claim 1 has been amended to positively recite “wherein said fuse link laterally contacts said first end portion and said second end portion and has a pair of parallel sidewalls separated by a substantially uniform width throughout an entirety thereof.” Support for this amendment is found, for example, in FIG. 11b of the instant application.

Still further, Claim 1 has been amended to positively recite that “said first end portion comprises a rectangular portion and a plurality of integral triangular-shaped portions, said rectangular portion includes a pair of coplanar sidewalls that are coplanar with each other, contacting sidewalls of said fuse link, and substantially perpendicular to said pair of parallel sidewalls.” Support for this amendment is found, for example, in FIG. 11b of the instant application. Specifically, FIG. 11a of the original application clearly and conclusively shows

that a first end portion 12a includes a rectangular portion that is bounded by a sidewall next to a measurement number of 2.716 (micron), a line that coincides with a measurement aid line for “length of fuse link” extending into the first end portion 12a, and the two sidewalls of the first end portion 12a that are separated by a distance of 2.716 (micron). Further, the first end portion 12a includes a plurality of integral triangular-shaped portions, i.e., two integral triangular shaped portions having a right angle and having a side that is 0.7 (micron) in length. In addition, the rectangular portion of the first end portion 12a includes a pair of coplanar sidewalls that are coplanar with each other, i.e., the two sidewalls each having a length of 0.196 and adjoining the fuse link 12c at one end and adjoining one of the two integral triangular-shaped portions at the other end. Further, the fuse design shown in FIG. 11a of the instant application clearly and conclusively shows that the pair of coplanar sidewalls is substantially perpendicular to the pair of parallel sidewalls of the fuse link 12c.

Even further, Claim 1 has been amended to positively recite “wherein said plurality of integral triangular-shaped portions is laterally spaced from said pair of parallel sidewalls by said pair of coplanar sidewalls, and sidewalls of said plurality of integral triangular-shaped portions, said pair of coplanar sidewalls, and said pair of parallel sidewalls form openings which face generally toward said second end portion.” Support for this amendment is found, for example, in FIG. 11b of the instant application, which clearly and conclusively shows the recited features. M.P.E.P. § 608.04 specifically states “*In establishing a disclosure, applicant may rely not only on the specification and drawing as filed but also on the original claims if their content justifies it.*”

In addition, the features of a metallic material structure has been re-written to positively recite “a metallic material structure located on an upper surface of said semiconductor material

structure and including a metallic material that is physically migratable along said upper surface responsive to an electrical current-I flowable through said semiconductor material structure and through said metallic material structure.” Support for this amendment is found, for example, in Claim 1 of the instant application as originally filed.

Claims 2, 3, 7, 8, 10, 12, 13, and 14 have been amended to match the corresponding changes to Claim 1.

Claim 11 has been cancelled without prejudice because the features of original Claim 11 have been substantively incorporated into amended Claim 1.

Claim 25 have been newly added.

Support for newly added Claim 25 is found, for example, in FIG. 11b of the instant application.

Since all of the present amendments are supported by the specification and do not introduce new matter into the instant application, entry thereof is respectfully requested.

In the outstanding Office Action, Claims 1 - 14 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over U.S. Patent No. 6,008,523 to Narayan et al. (“Narayan” hereafter) further in view of U.S. Patent No. 6,642,601 to Marshall et al. (“Marshall” hereafter).

Applicants submit that the claims of the instant application are not rendered obvious by the combination of Narayan and Marshall. Specifically, Applicants submit that the combination of Narayan and Marshall does not teach or suggest a programmable device “wherein [a] fuse link laterally contacts [a] first end portion and [a] second end portion and has a pair of parallel sidewalls separated by a substantially uniform width throughout an entirety thereof, said first end portion comprises a rectangular portion and a plurality of integral triangular-shaped portions, **said rectangular portion includes a pair of coplanar sidewalls that are coplanar with each**

other, contacting sidewalls of said fuse link, and substantially perpendicular to said pair of parallel sidewalls, wherein said plurality of integral triangular-shaped portions is laterally spaced from said pair of parallel sidewalls by said pair of coplanar sidewalls, and sidewalls of said plurality of integral triangular-shaped portions, said pair of coplanar sidewalls, and said pair of parallel sidewalls form openings which face generally toward said second end portion” as positively recited in Claim 1 of the instant application.

At page 8 of the outstanding Office Action, the Examiner alleges that Narayan teaches “openings which face generally toward said second end.” To support this position, the Examiner refers to FIG. 3 of Narayan, which shows “connection points 56 and 57” and “notched positions 59.” The Examiner further identified two integral triangles at page 7 of the outstanding Office action to support that Narayan teaches a plurality of integral triangular-shaped portions.

The Examiner’s mark-up drawing at page 7 of the outstanding Office action and FIG. 3 of Narayan, which is an original drawing for the Examiner’s mark-up, clearly and conclusively show that sidewalls of the integral triangular-shaped portions of Narayan directly contacts a fuse link. Thus, the only sidewalls of a “first end” of the programmable structure of Narayan that contacts a fuse link of Narayan are the sidewalls of integral triangle portions, but are not sidewalls of a rectangular portion. Further, the Examiner’s mark-up drawing and FIG. 3 of Narayan clearly and conclusively show that the two sidewalls of the integral triangle portions (at the notches) form an angle other than 0 degree or 180 degree with respect to each other, and therefore, cannot be coplanar with each other. Thus, Narayan does not teach or suggest a rectangular portion including a pair of “coplanar sidewalls” that are coplanar with each other AND contacting sidewalls of a fuse link.

In addition, the sidewalls of the integral triangle portions that contact the fuse link in Narayan cannot be substantially perpendicular to a pair of sidewalls of the fuse link. Applicants observe that the “opening” formed by the “integral triangles” would be eliminated as the angle between the sidewalls of the integral triangles and the sidewalls of the fuse link approach 90 degrees. Thus, the presence of any “integral triangle” in the mark-up drawing at page 7 of the outstanding Office Action requires that the sidewalls contacting a pair of parallel sidewalls of a fuse link in the structure of Narayan is incompatible with a right angle between the pair of fuse link sidewalls and the sidewalls of a first end portion that contact the pair of fuse link sidewalls. Therefore, Narayan does not teach or suggest a pair of coplanar sidewalls that “contact[s] sidewalls of [a] fuse link, **AND** substantially perpendicular to [a] pair of parallel sidewalls (of a fuse link).”

In addition, the mark-up drawings at page 7 of the outstanding Office Action and FIG. 3 of Narayan clearly and conclusively show that the sidewalls of the “integral triangles” directly contact a pair of sidewalls of a fuse link. Thus, the “integral triangles” of Narayan are **NOT** laterally spaced from a pair of parallel sidewalls (of a fuse link), but are directly adjoined to the pair of parallel sidewalls of a fuse link. Therefore, Narayan does not teach or suggest “a plurality of integral triangular-shaped portions” that is “laterally spaced from [a] pair of parallel sidewalls (of a fuse link) by [a] pair of coplanar sidewalls” as positively recited in Claim 1 of the instant application.

In sum, Narayan alone does not teach or suggest the various recited features of the programmable device as recited in Claim 1 as currently amended.

Marshall does not alleviate the defect in Narayan because Marshall does not teach or suggest any of the geometrical features of the programmable device of the instant application as

recited in amended Claim 1. Specifically, Marshall is silent on a programmable device “wherein [a] fuse link laterally contacts [a] first end portion and [a] second end portion and has a pair of parallel sidewalls separated by a substantially uniform width throughout an entirety thereof, said first end portion comprises a rectangular portion and a plurality of integral triangular-shaped portions, said rectangular portion includes a pair of coplanar sidewalls that are coplanar with each other, contacting sidewalls of said fuse link, and substantially perpendicular to said pair of parallel sidewalls.” The specification of Marshall is silent on any rectangular portion. Nor do the drawings of Marshall teach or suggest decomposition of the structure of Marshall into a rectangular portion that includes a pair of coplanar sidewalls that are coplanar with each other **AND** contact sidewalls of a fuse link. Applicants observe that Marshall discloses tapered sidewalls that adjoin a fuse link. See FIGS. 2A, 4A, and 5A of Marshall. The two sidewalls that adjoin the fuse link of Marshall cannot be coplanar with each other. Further, the tapered sidewalls of Marshall **cannot** be substantially perpendicular to a pair of parallel sidewalls of the fuse link of Marshall. Therefore, Marshall does not alleviate the defect in Narayan in this regard.

Further, Marshall does not teach or suggest the feature “wherein [a] plurality of integral triangular-shaped portions is laterally spaced from [a] pair of parallel sidewalls (of a fuse link) by said pair of coplanar sidewalls.” Applicants observe that any integral triangle of Marshall is necessarily formed directly on the tapered sidewalls of a contact element (51, 151, or 201) of Marshall. Therefore, any integral triangle of Marshall, even if one were to be constructed, cannot be is laterally spaced from [a] pair of parallel sidewalls (of a fuse link) by a pair of coplanar sidewalls in the structure of Marshall.

Therefore, the combination of Narayan and Marshall does not teach or suggest amended Claim 1 of the instant application or any of the dependent claims therefrom.

The §103 rejection also fails because there is no motivation in the applied references which suggest modifying the disclosed structure to include the various structural elements recited in the claims of the present invention. Thus, there is no motivation provided in the applied references, or otherwise of record, to make the modification mentioned above. "The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification." In re Vaeck, 947 F.2d, 488, 493, 20 U.S.P.Q. 2d. 1438, 1442 (Fed. Cir. 1991).

In view of the above amendments and remarks, the obviousness rejection citing the combination of Narayan and Marshall has been obviated. As such, reconsideration and withdrawal of the obviousness rejections are respectfully requested.

After reviewing the references of record in this application, Applicants observe that new Claim 25 is not taught or suggested in any of the applied references, singularly or in any combination. Applicants submit that new Claim 25 is patentable both for being dependent from the patentable Claim 1 and for the inventive features recited therein.

Thus, in view of the foregoing amendments and remarks, it is firmly believed that the present case is in condition for allowance, which action is earnestly solicited.

Respectfully submitted,



Steven Fischman
Registration No. 34,594

Scully, Scott, Murphy & Presser, P.C.
400 Garden City Plaza – Suite 300
Garden City, New York 11530
(516) 742-4343
BP:SF:eb